IN THE CLAIMS:

1 - 18. (Cancelled)

19. (New) In a CPAP apparatus having (i) a blower, (ii) a patient interface, (iii) an air delivery conduit for delivering air from the blower to the patient interface, (iv) a sensor adapted to determine the pressure in the patient interface, (v) a sensor adapted to determine the flow of air to the patient, (vi) a synchrony module programmed to determine transitions between inspiration and expiration of the patient's breathing cycle from at least one of said sensors, and (vii) a control mechanism programmed to provide a supply of air from said blower to the patient interface at positive pressure in accordance with a pressure-time template, a method of controlling the blower operation comprising the steps of:

automatically determining from at least one of said sensors a first index indicative of the presence of sleep disordered breathing and a second index indicative of the presence of sleep disordered breathing,

automatically determining a first treatment pressure in accordance with the first index of sleep disordered breathing and a second treatment pressure in accordance with the second index of sleep disordered breathing,

setting a pressure parameter of the pressure-time template to the first treatment pressure during the expiration phase of the patient's breathing cycle and setting a pressure parameter of the pressure-time template to the second treatment pressure during the inspiratory phase of the patient's breathing cycle, and

controlling the blower to deliver a supply of air at positive pressure to the patient interface in accordance with the template and in synchrony with the patient's breathing cycles as determined by the synchrony module.

20. (New) A method as claimed in claim 19 wherein the first index indicative of the presence of sleep disordered breathing is a function of one or more of

snoring, apnea and hypopnea exhibited in the patient's inspiratory flow-time curve.

21. (New) A method as claimed in claim 19 wherein the second index indicative of the presence of sleep disordered breathing is a function of one or more of flow flattening and snoring exhibited in the patient's inspiratory flow-time curve.

22. (New) A method in accordance with claim 19 in which said template is one of a square wave and a shark-fin wave.

23. (New) A method in accordance with claim 19 in which the first treatment pressure is an EPAP and the second treatment pressure is an IPAP.

24. (New) A method in accordance with claim 19 wherein the second treatment pressure is greater than or equal to the first treatment pressure.

25. (New) A method in accordance with claim 19 in which the pressure-time template has minimum and maximum pressure values.

26. (New) A method in accordance with claim 19 in which the pressure-time template has a minimum value.

27. (New) A method in accordance with claim 26 in which the minimum value is about 4 cmH2O.

28. (New) A method in accordance with claim 19 in which the first and second treatment pressures have a maximum value.

29. (New) A method in accordance with claim 28 in which the maximum value is about 25 cmH2O.

30. (New) A method in accordance with claim 19 in which the pressure-time template has a maximum allowable swing between the first treatment pressure and the second treatment pressure.

31. (New) A method in accordance with claim 20 wherein the first treatment pressure is decreased in the absence of an indication of apnea, hypopnea and snoring.

32. (New) A method in accordance with claim 21 wherein the second treatment pressure is decreased in the absence of an indication of flow flattening and snoring.

33. (New) A method in accordance with claim 19 wherein said pressure-time template is stored in look-up tables or arrays.

34. (New) An apparatus for treatment of sleep disordered breathing comprising:

a blower for providing to a patient a supply of air at a treatment pressure in phase with the patient's respiratory breathing cycle, the respiratory breathing cycle including an expiratory phase and an inspiratory phase;

a patient interface,

an air delivery conduit for delivering air from the blower to the patient interface,

a sensor for determining the pressure in the patient interface,

a sensor for determining the flow of air to the patient through the patient interface,

a synchrony module for detecting transitions between inspiration and expiration of the patient's breathing cycle from at least one of said sensors; and

a controller programmed to:

receive signals from the sensors and in response thereto detect the presence of a first event and a second event, the first and second events being different indications of sleep disordered breathing; and

set a first pressure as a function of the occurrence of the first event and set a second pressure as a function of the occurrence of the second event, the first pressure being used to determine the treatment pressure provided during the expiratory phase of the breathing cycle and the second pressure being used to determine the treatment pressure provided during the inspiratory phase of the breathing cycle.

35. (New) The apparatus according to claim 34 wherein the first event indicative of the presence of sleep disordered breathing is one or more of apnea, hypopnea and snoring.

36. (New) The apparatus according to claim 34 wherein the second event indicative of the presence of sleep disordered breathing is flow limitation.

37. (New) The apparatus according to claim 34 wherein the first pressure is an EPAP or EEP pressure.

38. (New) The apparatus according to claim 34 wherein the second pressure is an IPAP pressure.

39. (New) The apparatus according to claim 34 wherein the second pressure is greater than or equal to the first pressure.

40. (New) The apparatus according to claim 39 wherein there is a predetermined maximum pressure difference between the first pressure and the second pressure.

41. (New) The apparatus according to claim 39 wherein the first pressure and the second pressure have a maximum value of about 25 cmH2O.

42. (New) The apparatus according to claim 34 wherein the first pressure has a minimum value of about 4 cmH2O.

43. (New) The apparatus according to claim 34 wherein the controller is further programmed to provide the supply of air at positive pressure in accordance with a pressure-time template.

44. (New) The apparatus according to claim 43 wherein the pressure-time template is a square wave.

45. (New) The apparatus according to claim 43 wherein the pressure-time template is a shark-fin wave.

46. (New) The apparatus according to claim 43 wherein the pressure-time template is stored in look-up tables or arrays.

47. (New) The apparatus according to claim 34 wherein the controller is further programmed to decrease the first pressure in the absence of the detection of first events.

48. (New) The apparatus according to claim 34 wherein the controller is further programmed to decrease the second pressure in the absence of the detection of second events.

49. (New) The apparatus according to claim 34 wherein the controller is further programmed to decrease the first and second pressures in the absence of the detection of first and second events.

50. (New) In a CPAP apparatus having (i) a blower, (ii) a patient interface, (iii) an air delivery conduit for delivering air from the blower to the patient interface, and (iv) a controller that determines transitions between inspiration and expiration of the patient's breathing cycle, and that causes said blower to provide a supply of air to the patient interface at positive pressure in accordance with a pressure-time template, a method of controlling the blower operation comprising the steps of:

determining a first index indicative of the presence of sleep disordered breathing and a second index indicative of the presence of sleep disordered breathing,

setting a first pressure parameter of the pressure-time template for the expiration phase of the patient's breathing cycle in accordance with the first index of sleep disordered breathing and setting a second pressure parameter of the pressure-time template for the inspiratory phase of the patient's breathing cycle in accordance with the second index of sleep disordered breathing, and

controlling the blower to deliver a supply of air at positive pressure to the patient interface in accordance with the template and in synchrony with the determined transitions between inspiration and expiration of the patient's breathing cycle.

51. (New) A method as claimed in claim 50 wherein the first index indicative of the presence of sleep disordered breathing is a function of one or more of snoring, apnea and hypopnea exhibited in the patient's inspiratory flow-time curve.

52. (New) A method as claimed in claim 50 wherein the second index indicative of the presence of sleep disordered breathing is a function of one or more of flow flattening and snoring exhibited in the patient's inspiratory flow-time curve.

53. (New) A method in accordance with claim 50 in which said template is one of a square wave and a shark-fin wave.

54. (New) A method in accordance with claim 50 in which the first pressure parameter is an EPAP and the second pressure parameter is an IPAP.

55. (New) A method in accordance with claim 50 wherein the second pressure parameter is greater than or equal to the first pressure parameter.

56. (New) A method in accordance with claim 50 in which the pressure-time template has minimum and maximum pressure values.

57. (New) A method in accordance with claim 50 in which the pressure-time template has a minimum value.

58. (New) A method in accordance with claim 57 in which the minimum value is about 4 cmH2O.

59. (New) A method in accordance with claim 50 in which the blower is controlled to deliver a pressure to the patient interface that has a maximum value.

60. A method in accordance with claim 59 in which the maximum value is about 25 cmH2O.

61. (New) A method in accordance with claim 50 in which the pressure-time template has a maximum allowable swing between the minimum and maximum values of pressure that is delivered to the patient interface by the blower.

62. (New) A method in accordance with claim 51 wherein the first pressure parameter is decreased in the absence of an indication of apnea, hypopnea and snoring.

63. (New) A method in accordance with claim 52 wherein the second pressure parameter is decreased in the absence of an indication of flow flattening and snoring.

64. (New) A method in accordance with claim 50 wherein said pressure-time template is stored in look-up tables or arrays.

65. (New) An apparatus adapted for treatment of sleep disordered breathing comprising:

a blower for providing to a patient a supply of air at a treatment pressure in phase with the patient's respiratory breathing cycle, the respiratory breathing cycle including an expiratory phase and an inspiratory phase;

a patient interface,

an air delivery conduit for delivering air from the blower to the patient interface, and

a controller for detecting the pressure in the patient interface, the flow of air to the patient through the patient interface, and transitions between inspiration and expiration of the patient's breathing cycle;

said controller further determining the presence of a first event and a second event based upon detected information, the first and second events being different indications of sleep disordered breathing; and setting a first pressure as a function of the occurrence of the first event and setting a second pressure as a function of the occurrence of the second event, the first pressure being used to determine the treatment pressure provided during the expiratory phase of the patient's breathing cycle and the second pressure being used to determine the treatment pressure provided during the inspiratory phase of the patient's breathing cycle.

66. (New) The apparatus according to claim 65 wherein the first event indicative of the presence of sleep disordered breathing is one or more of apnea, hypopnea and snoring.

67. (New) The apparatus according to claim 65 wherein the second event indicative of the presence of sleep disordered breathing is flow limitation.

68. (New) The apparatus according to claim 65 wherein the first pressure is an EPAP or EEP pressure.

69. (New) The apparatus according to claim 65 wherein the second pressure is an IPAP pressure.

70. (New) The apparatus according to claim 65 wherein the second pressure is greater than or equal to the first pressure.

71. (New) The apparatus according to claim 70 wherein there is a predetermined maximum pressure difference between the first pressure and the second pressure.

72. (New) The apparatus according to claim 70 wherein the first pressure and the second pressure have a maximum value of about 25 cmH2O.

73. (New) The apparatus according to claim 65 wherein the first pressure has a minimum value of about 4 cmH2O.

74. (New) The apparatus according to claim 65 wherein the controller causes the blower to provide the supply of air at positive pressure in accordance with a pressure-time template.

75. (New) The apparatus according to claim 74 wherein the pressure-time template is a square wave.

76. (New) The apparatus according to claim 74 wherein the pressure-time template is a shark-fin wave.

77. (New) The apparatus according to claim 74 wherein the pressure-time template is stored in look-up tables or arrays.

78. (New) The apparatus according to claim 65 wherein the controller further causes the blower to decrease the first pressure in the absence of the detection of first events.

79. (New) The apparatus according to claim 65 wherein the controller further causes the blower to decrease the second pressure in the absence of the detection of second events.